SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Academic Year 2022-2023 (Even)

Department of Computer Science and Technology

19TS622-MACHINE LEARNING

UNIT V

PART – A

Q.No.	Questions	BT Level	Competence
1	Define Pattern?	BTL 1	Remembering
2	Explain pattern recognition	BTL 2	Understanding
3	Compare statistical and structural approaches in pattern recognition	BTL 5	Evaluating
4	State Bayes theorem.	BTL 1	Remembering
5	Illustrate the random variable.	BTL 2	Understanding
6	Examine the parametric estimation method.	BTL 4	Analyzing
7	Distinguish between maximum likely hood and Bayes' method.	BTL 4	Analyzing
8	Explain feature extraction.	BTL 5	Evaluating
9	List properties of expectation-maximization algorithm.	BTL 1	Remembering
10	What is clustering?	BTL 1	Remembering
11	List Parametric and Non-Parametric techniques	BTL 2	Understanding
12	Develop the F1 score? How would you use it?	BTL 3	Applying
13	Apply Precision and Recall to any model?	BTL 3	Applying
14	Organize how to Tackle Overfitting and Under fitting?	BTL 3	Applying
15	Summarize Ensemble learning.	BTL 2	Understanding
16	Explain Correlation and Covariance?	BTL 5	Evaluating
17	Build the design pattern recognition system.	BTL 3	Applying
18	Discuss on Principal Component Analysis.	BTL 6	Creating
19	Discuss on non-parametric methods.	BTL 6	Creating
20	Define dimensionality reduction.	BTL 1	Remembering

PART – B

Q.No.	Questions	Marks	BT Level	Competence
1	Explain general principles of likelihood estimation.	13	BTL 2	Understanding
2	Recall maximum Likelihood estimation with mean and variance.	13	BTL 1	Remembering
3	When the maximum likelihood and Bayes' method differ? Explain.	13	BTL 3	Applying
4	Explain principle component analysis.	13	BTL 2	Understanding
5	Write an algorithm for expectation-maximization.	13	BTL 1	Remembering
6	Derive the computation of hidden Markov model.	13	BTL 4	Analyzing
7	Estimate density Estimation under non-parametric method.		BTL 5	Evaluating
8	Write Short notes on (a) Parzen-Window Estimation (b) Estimation of Posterior Probability.	 6 7	BTL 6	Creating
9	What is Linear Discriminant Function and explain its categories.	13	BTL 1	Remembering
10	Write a Descent Algorithm under Relaxation procedures.	13	BTL 1	Remembering
11	Describe Support Vector Machine. How the vector developed in the training pattern.	13	BTL 3	Applying
12	Discuss SVM for XOR problems.	13	BTL 2	Understanding
13	Examine Pattern Recognition Systems and explain each components.	13	BTL 4	Analyzing
14	Construct a general Pattern Recognition Systems under design cycle.	13	BTL 6	Creating

PART – C				
Q.No.	**Questions**	**Marks**	**BT Level**	**Competence**
1	List non-parametric techniques and Explain K-nearest neighbor estimation.	15	BTL 4	Analyzing
2	Define pattern. Develop the design cycle of pattern recognition system and explain components involved in PR system.	15	BTL 6	Creating
3	List parametric techniques and explain any one.	15	BTL 4	Analyzing
4	Explain about Dimension reduction and its techniques	15	BTL 5	Evaluating